DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0076125 (hereinafter referred as "Nakamura") in view of US Patent 6,167,037 (hereinafter referred as "Higuchi").

Regarding amended claim 21 and claim 23, Nakamura discloses an information management method for cell search in a mobile communications system comprising:

(a) a capturing step of capturing, in a handover-source base station, phase difference information between a long period spreading code of a common control channel from said handover-source base station and a long period spreading code of a common control channel from a handover destination base station (see Figs. 1, 3, and 8, paragraphs [0695], [0732]), the

phase difference information being calculated by at least one mobile station that is communicating with said handover-source base station (see Figs. 1, 3, and 8, paragraphs [0695], [0730]);

Nakamura does not disclose a storing step of storing, in said handover- source base station and/or its control station, the captured phase difference information and transmitting step of transmitting the stored phase difference information to a mobile station. However, Higuchi discloses storing the captured phase difference information and transmitting the stored phase difference information to a mobile station (see Figs. 17, 19a, 20-22, and 25a, col. 20, lines 27-30). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine storing the phase difference information teaching by Higuchi with Nakamura. The motivation for doing so would have been to provide to achieve fast and highly accurate acquisition of the spreading codes in a mobile communication system using long codes read on column 3, lines 63-64. Therefore, it would have been obvious to combine Higuchi and Nakamura to obtain the invention as specified in the claims 21 and 23.

4. Claims 24, 25, and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0076125 (hereinafter referred as "Nakamura") in view of US Patent 6,571,099 (hereinafter referred as "Kim").

Regarding amended claims 24, 25, and claim 29, Nakamura discloses a cell search method of a mobile station comprising:

(a) a receiving capturing step of receiving, from a base station, phase difference information between a long period spreading code of a common control channel of said base station and a

long period spreading code of a common control channel of a neighboring base station of said base station (see Figs. 1, 3, and 8, paragraphs [0695], [0730], [0732]);

Nakamura does not disclose a cell search step of carrying out cell search in accordance with the received phase difference information. However, Kim discloses a cell search step of carrying out cell search in accordance with the received phase difference information (see Fig. 2, 4, 7, and 9, abstract, col. 1, lines 16-36, col. 7, lines 49-67, and col. 8, lines 1-9). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a cell search step of carrying out cell search in accordance with the received phase difference information teaching by Kim with Nakamura. The motivation for doing so would have been to provide for a quickly search a cell at mobile station read on abstract. Therefore, it would have been obvious to combine Kim and Nakamura to obtain the invention as specified in the claims 24, 25, and 29.

5. Claims 26-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,466,628 (hereinafter referred as "Kim") in view of US 2004/0076125 (hereinafter referred as "Nakamura")

Regarding claims 26-28, Kim discloses a base station comprising:

(a) storing means for storing phase difference information, the phase difference information being captured from a mobile station (see Figs. 2 and 3, col. 5, lines 66-67, col. 6, lines 1-28);

(b) management means for managing the phase difference information stored in said storing means (see Figs. 2 and 3, col. 5, lines 66-67, and col. 6, lines 1-28);

Kim does not disclose a long period spreading code of a common control channel of said base station and a long period spreading code of a common control channel of a neighboring base station of said base station. However, Nakamura discloses disclose a long period spreading code of a common control channel of said base station and a long period spreading code of a common control channel of a neighboring base station of said base station (see Figs. 1, 3, and 8, paragraphs [0695], [0730], and [0732]). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine a long period spreading code of a common control channel teaching by Nakamura with Kim. The motivation for doing so would have been to provide optimizing between degradation in accuracy of coherent detection due to reduction of the number of the pilot symbols read on paragraph [0008]. Therefore, it would have been obvious to combine Nakamura and Kim to obtain the invention as specified in the claims 26-28.

6. Claim 31 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Patent 6,650,686 (hereinafter referred as "Kondo") in view of US Patent 6,167, 037 (hereinafter referred as "Higuchi").

Regarding claim 31, Kondo discloses a mobile communications system including a base station and a mobile station,

said base station comprising:

(a) management means for managing the phase difference information stored in said storing means (see Fig. 1, element 139, col. 8, lines 50-65);

said mobile station comprising:

(b) mobile station storing means for storing the phase difference information captured from said base station (see Fig. 1, element 177, col. 8, lines 50-65);

(c) cell search means for carrying out cell search in accordance with the phase difference information stored in said mobile station storing means (see Figs. 3 and 4, col. 10, lines 23-36, 42-49);

Kondon does not disclose base station storing means for storing phase difference information between a long period spreading code of a common control channel of said base station and a long period spreading code of a common control channel of a neighboring base station of said base station, the phase difference information being captured from said mobile station. However, Higuchi discloses base station storing means for storing phase difference information between a long period spreading code of a common control channel of said base station and a long period spreading code of a common control channel of a neighboring base station (see Figs. 17, 19a, 20-22, and 25a, col. 20, lines 27-30). At the time of the invention, it would have been obvious to a person of ordinary skill in the art to combine base station storing means for storing phase difference information between a long period spreading code of a common control channel of said base station and a long period spreading code of a common control channel of a neighboring base station teaching by Higuchi with Kondon. The motivation for doing so would have been to provide for achieving high speed spreading code synchronization of a forward link control channel read on abstract. Therefore, it would have been obvious to combine Higuchi and Kondon to obtain the invention as specified in the claim 31.

Allowable Subject Matter

7. Claims 22, 32, and 33 are allowed.

8. Claim 30 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments with respect to claims 21, 23-29, and 31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(1) US Patent 6,754,497 (Ozluturk) discloses seamless handoff system and method.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phirin Sam whose telephone number is (571) 272-3082. The examiner can normally be reached on Increased Flexitime Policy (IFP) Program.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272 - 2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Respectfully submitted,

Date: April 10, 2008

By: /Phirin Sam/

Phirin Sam
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